

**Amendments to the Claims**

Please amend Claims 1 and 3. Please cancel Claim 2. The Claim Listing below will replace all prior versions of the claims in the application:

**Claim Listing**

1. (Currently amended) A method of prefix search comprising:  
applying prefix search keys to an input queue;  
distributing the prefix search keys from ~~[[an]]~~ the input queue to plural prefix search engines over a network from the input queue as the engines become idle; [[and]]  
at each search engine, reading data from a prefix search data tree structure stored in memory and, in a comparator, performing prefix search comparisons of search keys and data from the prefix search tree data structure to determine, in a forward pass of the tree data structure toward a leaf, memory addresses of nodes of the tree data structure to read the data from memory and obtain prefix search results~~[[.]]~~; and  
forwarding results of prefix searches of the plural prefix search engines over the network to an output queue in an order independent of the order in the input queue.
2. (Cancelled)
3. (Currently amended) A method as claimed in claim ~~[[2]]~~ 1 wherein the results of the prefix searches are ordered in the output queue in the same order that the corresponding prefix search keys arrived at the input queue.
4. (Original) A method as claimed in claim 1 further comprising:  
addressing a memory unit from each search engine over integrated circuit pins shared with another search engine; and  
reading the data in bursts over integrated circuit data pins dedicated to the search engine from the address locations in the memory unit.

5. (Original) A method as claimed in claim 4 further comprising storing a prefix search tree data structure across plural banks of memory units and accessing the tree structure in successive read cycles.
6. (Original) A method as claimed in claim 1 further comprising storing a prefix search tree data structure across plural banks of memory units and accessing the tree structure in successive read cycles.
7. (Original) A method as claimed in claim 6 wherein duplicate copies of internal nodes of the tree structure are stored in each of plural banks.
8. (Original) A method as claimed in claim 7 wherein leaf nodes are interleaved across plural banks.
9. (Original) A method as claimed in claim 1 wherein the determined memory address is the address of the next tree node.
10. (Original) A method as claimed in claim 9 wherein the determined memory address is determined from a comparison of plural stored keys with the search key.
11. (Previously presented) A method of prefix search comprising:  
distributing prefix search keys to plural prefix search engines; and  
at each search engine, reading data from a prefix search data tree structure stored in memory and, in a comparator, performing prefix search comparisons of search keys and data from the prefix search tree data structure to determine, in a forward pass of the tree data structure toward a leaf, memory addresses of nodes of the tree data structure to read the data from memory and obtain prefix search results, the step of reading data further comprising:  
addressing a memory unit from each search engine over integrated circuit pins shared with another search engine; and

reading the data in bursts over integrated circuit data pins dedicated to the search engine from the address locations in the memory unit.

12. (Previously presented) A method as claimed in claim 11 further comprising storing a prefix search tree data structure across plural banks of memory units and accessing the tree structure in successive read cycles.
13. (Previously presented) A method of prefix search comprising:  
distributing prefix search keys to plural prefix search engines; and  
at each search engine, reading data from a prefix search data tree structure stored in memory and, in a comparator, performing prefix search comparisons of search keys and data from the prefix search tree data structure to determine, in a forward pass of the tree data structure toward a leaf, memory addresses of nodes of the tree data structure to read the data from memory and obtain prefix search results, the method further comprising storing a prefix search tree data structure across plural banks of memory units, duplicate copies of internal nodes of the tree structure being stored in each of plural banks, and accessing the tree structure in successive read cycles.
14. (Previously presented) A method as claimed in claim 13 wherein leaf nodes are interleaved across plural banks.